

ABSTRACT

LOW-SPURIOUS-RADIATION MICROWAVE TUBE

The invention relates to a microwave tube comprising an electron gun (12) generating an electron beam (20) in a cylindrical microwave structure (14, 50) of the tube. The microwave structure delivers a microwave at one output. A collector (16, 58, 82, 92) for collecting electrons from the beam comprising at least one electrode that is mechanically coupled to the microwave structure via a dielectric (62, 94), the mechanical coupling forming a radial waveguide for propagating spurious microwave radiation (Pr) from the tube.

In order to attenuate the spurious radiation from the tube, the radial waveguide (Wg) includes at least one quarter-wave microwave trap having, at least at the operating frequency F of the tube, an open circuit for the microwave propagating in said radial waveguide for propagating spurious radiation.

Applications: microwave tubes, especially klystrons, TWTs, etc.

Figure 5c